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wholly erroneous and indefensible. Curiously enough, the same sentence which defines the author's use of the term includes a statement of assimilation in the really proper sense: use of the food "by the protoplasm in making new parts and in repairing waste." One cannot but wonder how long a time must elapse before the three independent processes in plants—the chlorophyllous production of food, digestion, and assimilation—will be generally apprehended to an extent that will insure their correct presentation in works that purport to be botanically accurate.

To offset the misuse just referred to, although making it the more inexplicable, one can heartily commend the careful employment of the terms fecundation and pollination, in place of the much-abused term, fertilization, which is often made to do service for both processes without distinction. In general the book is to be praised on account of the careful balance preserved between the various divisions of the subject, for the logical method of presentation throughout, and for the serviceable illustrations, two-thirds of which are original.

Some regret must be felt that the work has been arranged for such an elementary grade of instruction. Yet having performed the more difficult task of writing an acceptable work for beginners, it is to be hoped that the author will follow it with a general treatise suitable for more advanced students.—J. C. A.

#### Plant diseases.

Another general work is now available to the student of plant diseases. An English edition of Dr. von Tubeuf's book, issued in Germany in 1895, which treats of those diseases of plants induced by cryptogamic parasites, has been prepared by his former pupil, Dr. Wm. G. Smith<sup>4</sup> of Edinburgh. The English edition is printed on extra thick paper, which makes the work uncomfortably heavy, considering the amount of matter it contains, but has the one merit of displaying to good advantage the numerous half tone engravings from the author's excellent photographs. The work is well printed. The translation is in general acceptable, although one must take exception to the indefensible and unscientific use of the word "fungoid" for fungus, an error that can only be forgiven in unlearned writers.

One hundred pages of the work are given over to the nature and effects of parasitism, with some account of the extent of parasitic diseases and means for combating them. The remaining five-sixths of the work are devoted to a systematic account of the fungi, bacteria, myxomycetes, and algæ that cause

<sup>4</sup>TUBEUF, DR. KARL FREIHERR VON.—Diseases of plants induced by cryptogamic parasites: introduction to the study of pathogenic fungi, slime-fungi, bacteria and algæ. English edition by William G. Smith. Longmans, Green & Co., London, New York and Bombay, 1897. 8vo. pp. 598. 330 illustrations. \$5.50.

diseases. The English edition is brought down to date, by the addition of much new matter.

The results of American research are prominent throughout the book, both in regard to the occurrence of special diseases and parasites, and also in regard to treatment for the same; yet the suggestions for use of fungicides and other preventive measures will seem meager and inadequate to American students. The translator has indicated the species found in Britain and North America, and has added many valuable notes.

The work is perspicuously written, accurate, reasonably complete, and altogether the best work giving a systematic review of cryptogamic parasites and the diseases they induce in plants, yet published in the English language. —J. C. A.

### Report of the New York State Botanist.

It has been thirty years since Mr. Charles H. Peck became State Botanist of New York. In this time twenty-eight annual reports have been printed. With exception of the last one all have been octavo in size, and have borne much similarity in appearance.

About half of them have been accompanied with plates. The intricate official system of transmitting and publishing these reports has often delayed their appearance beyond all reasonable limits. Once the work was seriously checked by failure of the state to provide the necessary funds, and several of the reports have been printed in extremely small editions. In spite of the derelictions of those who receive and issue the reports, or rather of the system under which they are issued, the work of studying the state flora has gone steadily on, and a feeling of permanency and uniformity has become established.

The recent receipt of the last report issued,<sup>5</sup> that for 1894, brings an agreeable surprise. The size of page has been increased to a quarto (24×30<sup>cm</sup>), the paper and typography are better, colored plates are used, and the work is attractively bound in cloth. It is a volume in keeping with the dignity of the state and with the importance of the subject, and ought to be the model for subsequent reports.

The subject matter is distributed essentially as in preceding reports. The plants new to the state include eleven species of fungi new to science. Of species previously reported from the state four new varieties are described, all fungi. The carices of the state have been collected and especially written up for this report by Dr. E. C. Howe. There are 133 species described with many valuable notes. Dr. Howe is mentioned in the first report made

<sup>5</sup>PECK, CHARLES H.—Annual report of the state botanist of the state of New York, made to the regents of the university. 4to. 241 pp. 44 col. pl. Albany, James B. Lyon, state printer, 1896.